299-W10-33 (C5855)
Log Data Report

Borehole Information:

Borehole:	299-W10-33 (C5855)		Site:	Near 241-T tank farm	
Coordinates (WA St Plane)		GWL[1] (ft):	233.5	GWL Date:	08/29/07
North (m)	East (m)	Drill Date	TOC Elevation	Total Depth (ft)	Type
not available	not available	08/07	not available	425	Cable

Casing Information:

Casing Type	Stickup (ft)	Outer Diameter (in.)	Inside Diameter (in.)	Thickness (in.)	Top (ft)	Bottom (ft)
Threaded Steel	0	12 3/4	11 15/16	13/32	0	191
Threaded Steel	5.7	10 3/4	9 3/4	1/2	5.7	419.8

Borehole Notes:

The on site geologist provided the drilling depth and casing depth information. The logging engineer measured the casing dimensions using a caliper and steel tape. The borehole was drilled with air rotary technique to 191 ft (first casing string) and with a cable tool to total depth (second casing string). Logging data acquisition is referenced to the ground surface.

Logging Equipment Information:

Logging System:	Gamma 1E		Type:	SGLS (70%) SN: 34-TP40587A
Effective Calibration Date:	05/22/2007	Calibration Reference:	HGLP-CC-016	
		Logging Procedure:	HGLP-MAN-002; Rev.0	

Spectral Gamma Logging System (SGLS) Log Run Information:

Log Run	1	2	3 Repeat	
Log Run	**1**	**2 Repeat**	**3**	**4 Repeat**
Date	06/25/07	06/25/07	08/30/07	08/30/07
Logging Engineer	Spatz	Spatz	Spatz	Spatz
Start Depth (ft)	191.0	110.0	422.0	190.0
Finish Depth (ft)	0.0	90.0	19.0	213.0
Count Time (sec)	100	100	100	100
Live/Real	R	R	R	R
Shield (Y/N)	N	N	N	N
MSA Interval (ft)	1.0	1.0	1.0	1.0
ft/min	N/A[2]	N/A	N/A	N/A
Pre-Verification	AE226CAB	AE226CAB	AE228CAB	AE228CAB
Start File	AE226000	AE226000	AE228000	AE228233
Finish File	AE226191	AE226191	AE228232	AE228256
Post-Verification	AE226CAA	AE226CAA	AE228CAA	AE228CAA
Depth Return Error (in.)	-3	0	N/A	0

Logging Operation Notes:

Logging was conducted with a centralizer on the sonde and measurements are referenced to ground surface.

Analysis Notes:

Analyst:	Henwood	Date:	11/12/07	Reference:	GJO-HGLP 1.6.3, Rev. 0

Pre-run and post-run verifications for the logging system were performed before and after the day's data acquisition. The acceptance criteria were met.

Casing corrections for a 13/32-in. and 1/2-in. thick casings were applied to the SGLS data from 0 to 191 ft, and from 190 to 422 ft, respectively.

SGLS spectra were processed in batch mode using APTEC SUPERVISOR to identify individual energy peaks and determine count rates. Concentrations were calculated with an EXCEL worksheet template identified as G1EMay07.xls using an efficiency function and corrections for casing, dead time, and water as determined from annual calibrations.

Results and Interpretations:

Cs-137 was detected at a few depth locations using the routine processing software. Upon inspection of the spectra, it was determined these detections are statistical fluctuations and are not considered valid.

The KUT data indicate some variation. Radon appears to exist in the water inside the borehole below 233 ft.

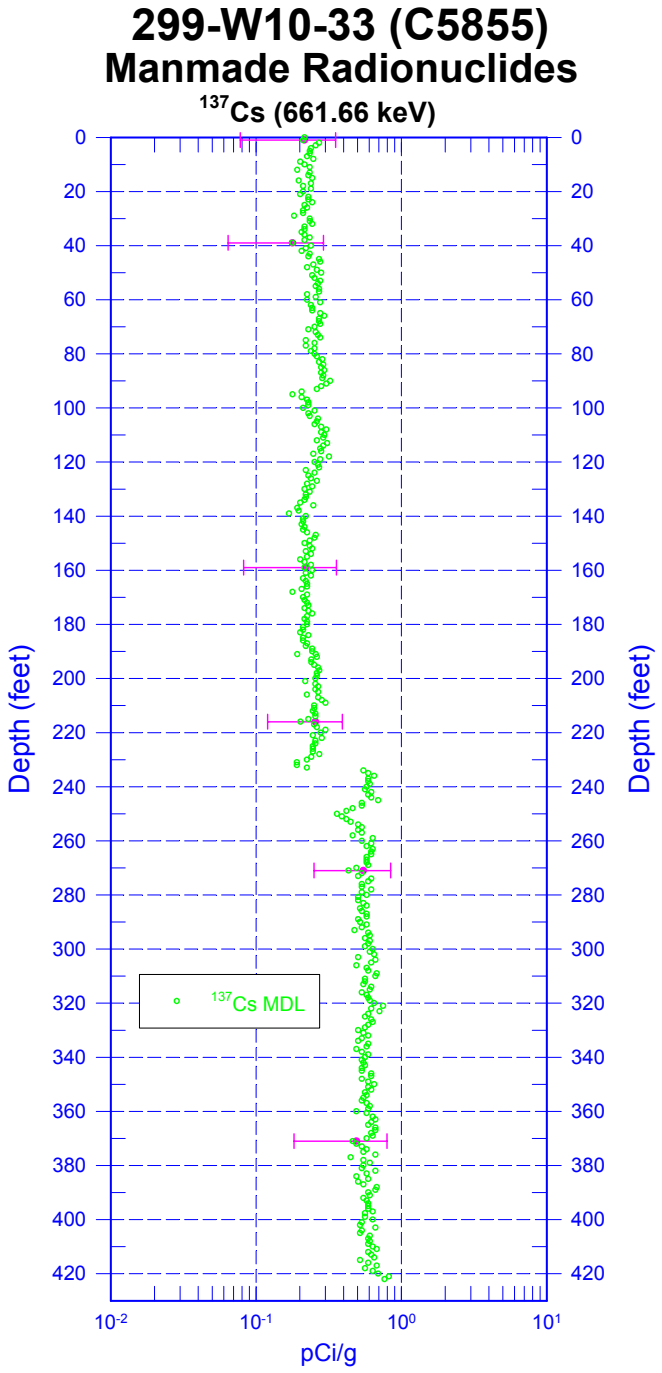
The SGLS repeat logs show good repeatability.

List of Log Plots:

Depth Reference is ground surface

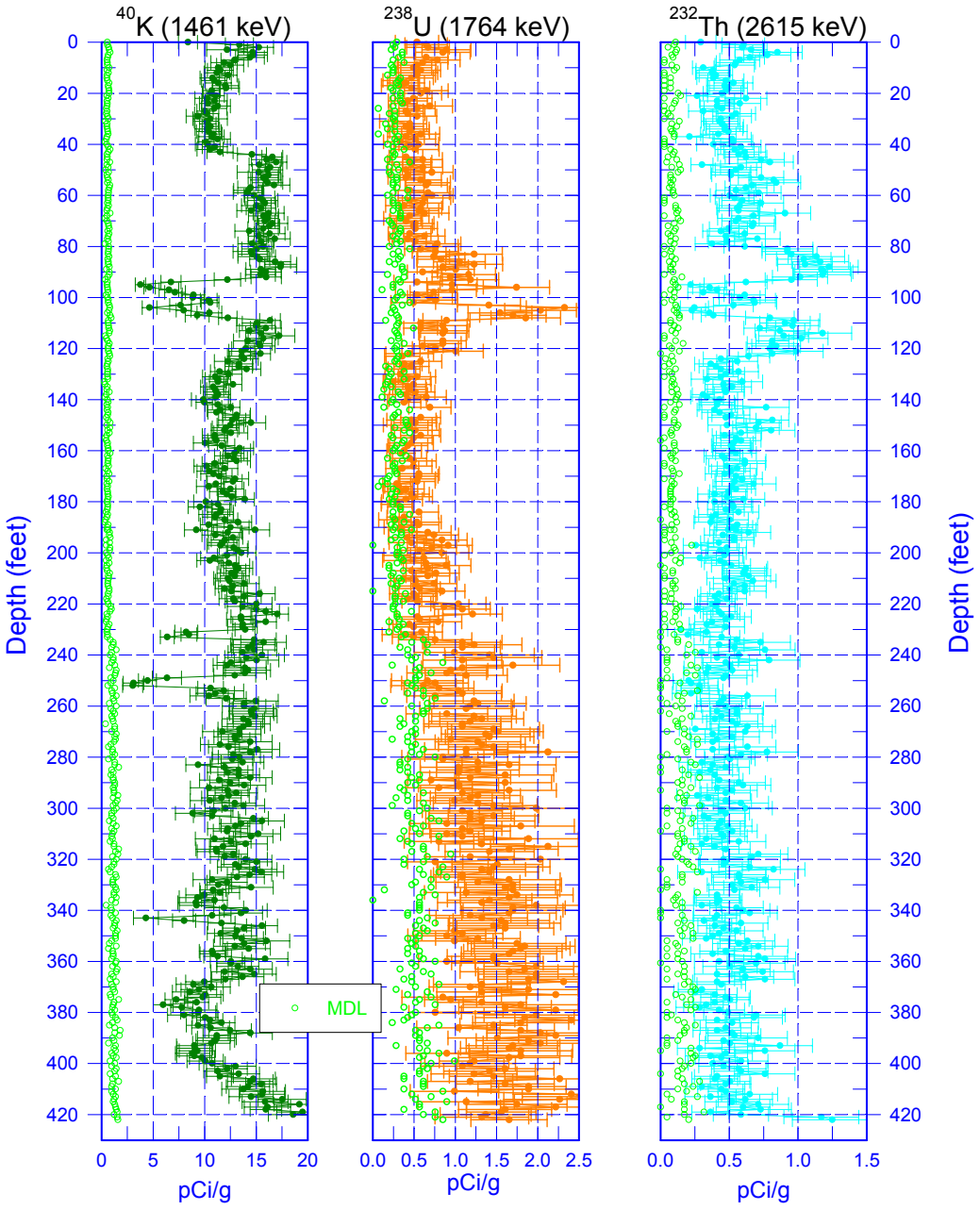
Manmade Radionuclides
Natural Gamma Logs
Combination Plot
Total Gamma and Dead Time
Repeat of Natural Gamma Logs (190 to 213 ft)
Repeat of Natural Gamma Logs (90 to 110 ft)

[1] GWL – groundwater level

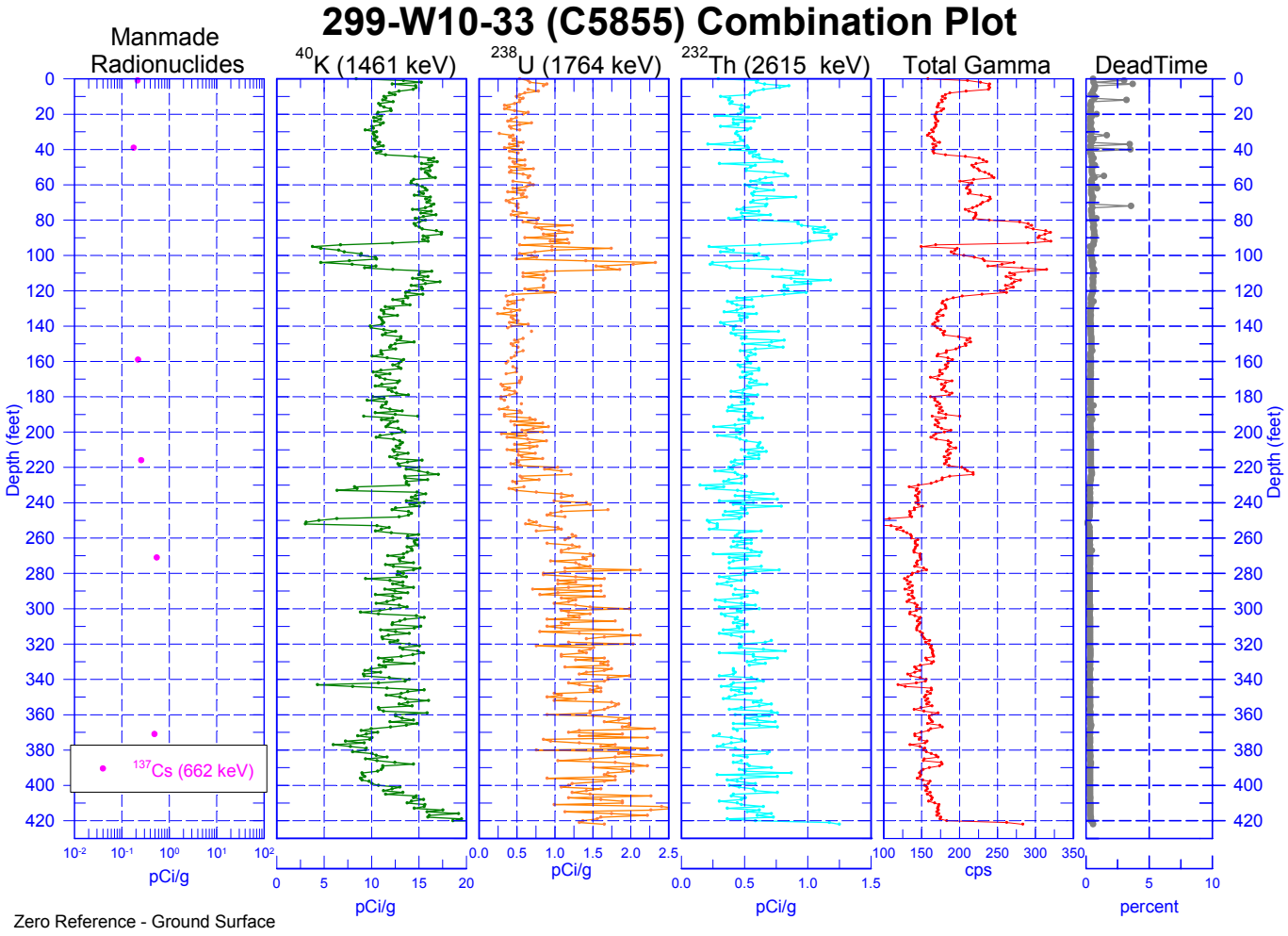


Zero Reference - Ground Surface

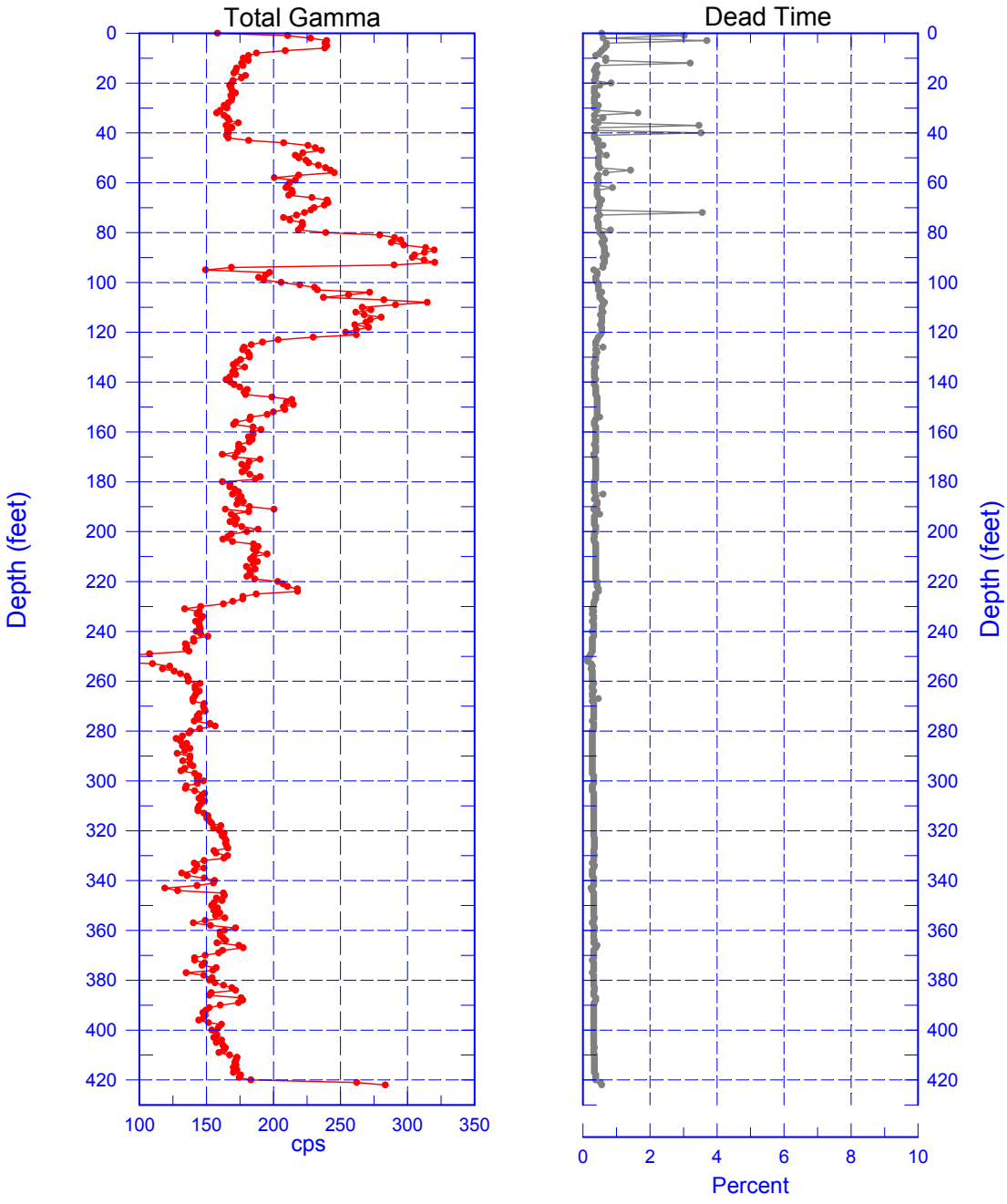
299-W10-33 (C5855)
Natural Gamma Logs



Zero Reference = Ground Surface

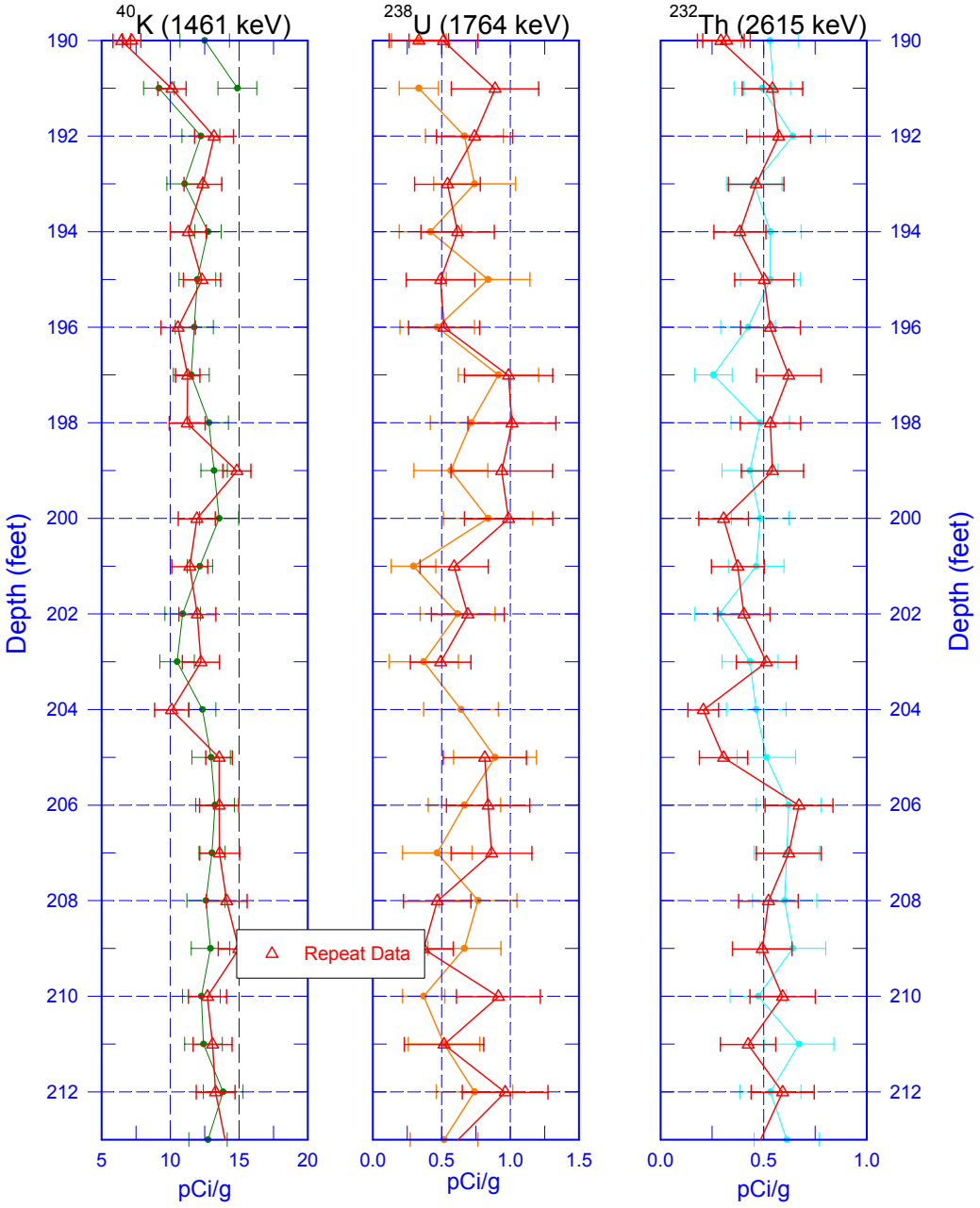

299-W10-33 (C5855) Combination Plot
Manmade Radionuclides
40K (1461 keV)
238U (1764 keV)
232Th (2615 keV)
Total Gamma
DeadTime
Depth (feet)
137Cs (662 keV)
pCi/g
cps
percent
Zero Reference - Ground Surface

299-W10-33 (C5855)
Total Gamma and Dead Time



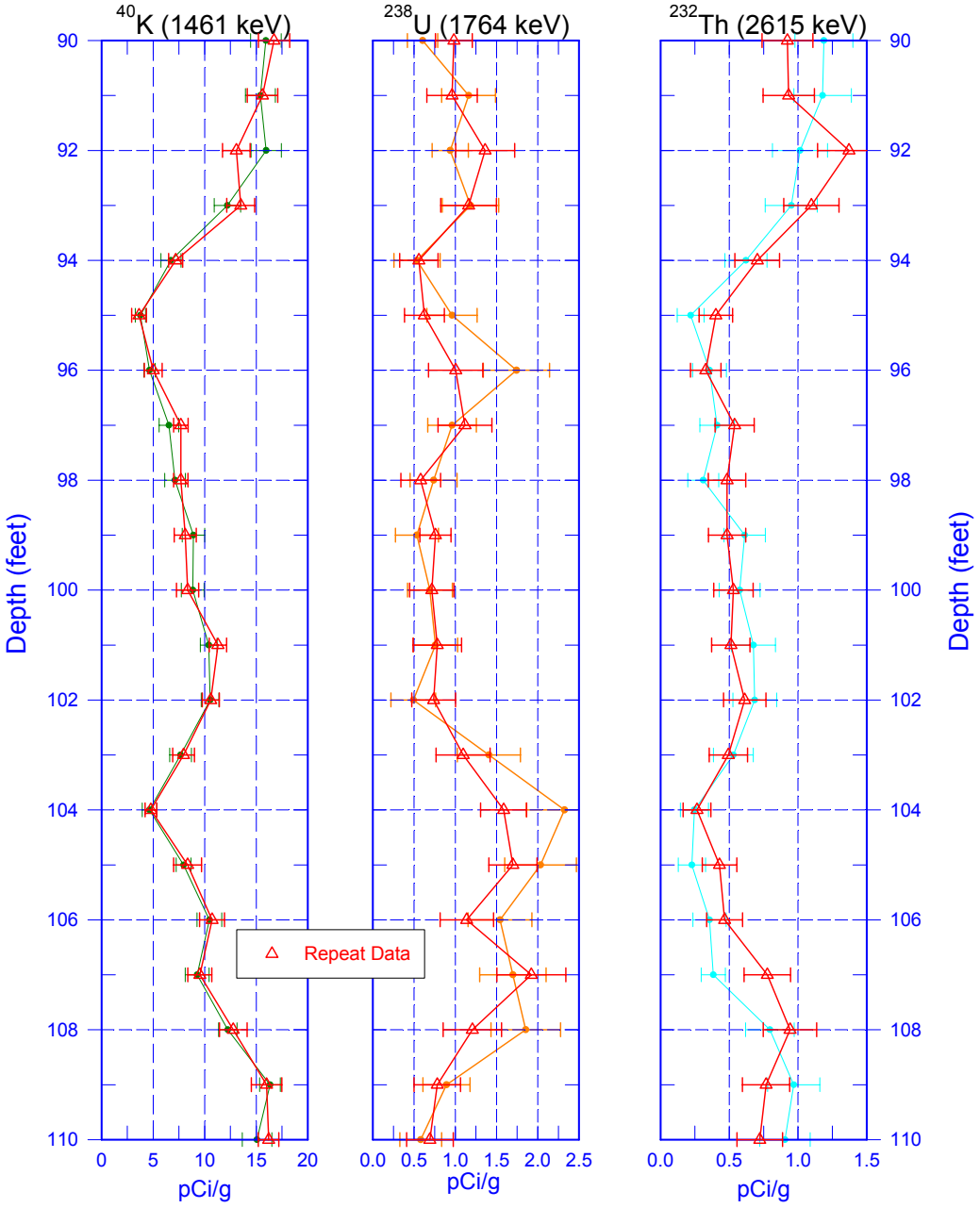
Reference - Ground surface

299-W10-33 (C5855)
Repeat of Natural Gamma Logs



Zero Reference = Ground Surface

299-W10-33 (C5855)
Repeat of Natural Gamma Logs



Zero Reference = Ground Surface